REMARKS

This amendment is responsive to the Office Action of October 18, 2006. Reconsideration and allowance of claims 1-19 are requested.

The Office Action

Claims 1-7, 9, and 10 stand rejected under 35 U.S.C. § 102 as being anticipated by Leussler (WO 02/095435).

Claim 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over Leussler, in view of Bock (US 6,549,799).

Claims 11-17 stand rejected under 35 U.S.C. § 112, first paragraph.

Claims 11, 12, 14, 16, and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Leussler in view of Visser (US 6,870,368).

Claim 13 was indicated as containing allowable subject matter.

Claim 15 stands rejected under 35 U.S.C. § 103 as being unpatentable over Leussler, in view of Visser, further in view of Leussler (US 6,909,518).

Claims 18 and 19 stand rejected under 35 U.S.C. § 101 and under 35 U.S.C. § 102 as being anticipated by Leussler.

The Present Amendment Should Be Entered

First, the October 18, 2006 Office Action sets forth **a new ground of rejection** against claims 1-9. Claims 1-9 were not amended in preceding Amendment B. Because claims 1-9 were not amended, the new ground of rejection could not have been necessitated by applicants' amendments to those claims. Accordingly, the *Finality* of the Office Action is premature and should be withdrawn.

Second, the present amendments address 35 U.S.C. § 101 and 35 U.S.C. § 112 issues. Although the Examiner did not make an explicit 35 U.S.C. § 112, second paragraph rejection against claims 1 and 3, the "Response to Arguments" section suggests a lack of interconnectivity among the recited elements in the nature of a 35 U.S.C. § 112, second paragraph objection. The amendments to claims 1 and 3 are presented to cure this lack of connectivity issue.

Claim 11 has been amended to address the 35 U.S.C. § 112, first paragraph rejection.

Claim 13 has been placed in independent form.

Claims 18 and 19 have been amended to address the 35 U.S.C. § 101 issue by adding a more positive recitation of a tangible result. The tangible result added to claims 18 and 19 is the excitation of resonance and the reconstruction of the receive channels into a diagnostic image. These steps are already shown in the Leussler patent which has been applied against these claims. Accordingly, no further search or consideration is necessitated by this amendment.

Because the present amendment merely addresses matters of form and does not require further search or consideration, it is submitted that it should be entered.

The Claims Distinguish Patentably Over the References of Record

Claim 1 calls for a transmit unit which comprises: (1) a plurality of amplifiers, (2) a first controllable multiplexer/distributor network, and **(3) a second controllable multiplexer/distributor network.** In the Examiner's discussion regarding the application of Leussler to claim 1, the Examiner asserts that Leussler discloses a plurality of amplifiers and a first controllable multiplexer/distributor network. Significant by its absence is any assertion that Leussler discloses the third claimed element – a second controllable multiplexer/distributor network. Indeed, the relied upon embodiment of Leussler discloses only a single network **108**.

Because Leussler fails to disclose one of the recited elements of the claimed transmission unit, Leussler does not anticipate claim 1.

Moreover, the Examiner asserts that control unit **108** of Leussler is a controllable multiplexer/distributor network. As described at the top of page 8, control unit **8** is a series of individual parallel transmission channels, each of which is able to adjust the phase and amplitude of the signal passing along it. No multiplexing function is suggested.

Accordingly, **claim 1 and claims 2-10 dependent therefrom** are neither anticipated by nor obvious over Leussler.

Claim 2 calls for a control unit for activating the multiplexer/distributor networks and **claim 3** calls for the gain factor of each amplifier to be controllable by said control unit. While the amplifiers **107** of Leussler might be adjustable, it is

submitted that such adjustment would be made during a set-up and calibration process in which the gains of each amplifier are set, probably balanced. There is no suggestion in Leussler that the controller **111** should be connected to the amplifiers **107** to adjust the gain factor. Because Leussler makes no suggestion that the control unit **111** should adjust the gain factor of the amplifiers **107**, Leussler does not anticipate **claim 3**.

Claim 11 also calls for the transmit unit to include the first controllable distribution network and a second controllable distribution network. As indicated above, Leussler only discloses one distribution network **108**.

In paragraph 8 of the Office Action, the Examiner specifically concedes that Leussler does not disclose a second controllable distribution network.

Claim 11 also calls for the second distribution network to distribute output signals from the plurality of amplifiers to generate the plurality of amplitude adjusted RF signals that are applied to the resonator elements. Leussler does not disclose a second distribution element which distributes outputs from the amplifiers **107** to generate RF signals that are applied to the resonator elements **104**. Visser does not cure this shortcoming of Leussler.

Visser provides a different solution to a different problem. Specifically, as set forth in column 1, Visser is directed to the problem of more resonators than receiver channels. Magnetic resonance systems that are set-up for SENSE encoding can have a large number of resonators, which number may exceed the number of receiver channels. Visser provides a network which enables selectable pairs of the resonator elements to be connected into a common receiver channel. First, Leussler already has as many receivers or demodulators **114** as he has resonators. Indeed, Leussler has two additional demodulator channels **i, j** which are connected with surface coils **117**. Because the Leussler system does not suffer from the shortage of demodulator/receiver channels addressed by Visser, it is submitted that there would be no motivation to combine or add the Visser system to Leussler.

Moreover, if one were to incorporate the Visser circuitry into Leussler, it is submitted that one would eliminate some portion of the demodulators **114** and insert the Visser phase shifters **51**, switches **52**, and summing circuits **53** between the individual preamplifiers **113** and the remaining demodulators **114**.

Thus, if the Visser network were added to Leussler, the network would not receive or distribute output signals from the amplifiers over which the first distribution network distributed the low power RF signals. Moreover, the output of the summing circuits of Visser or the remaining demodulators **114** of Leussler are not applied to the resonator elements, but rather would be sent to the reconstruction unit **115** for reconstruction.

Thus, there is no motivation to incorporate the Visser unit into Leussler and even if it were, Visser would teach the reader to place the distribution network of Figure 7 in a different location (on the receive side) than called for by claim 11. Accordingly, it is submitted that **claim 11, and claims 12, 14, and 15 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 13, which was indicated as containing allowable subject matter, has been placed in independent form. Accordingly, it is submitted that **claim 13 and claims 16 and 17 dependent therefrom** are now in condition for allowance.

Claim 18 calls for distributing a plurality of low power RF signals among inputs to a plurality of power amplifiers. As the Examiner notes, Leussler does distribute low power RF signals among the inputs of power amplifiers **107**. However, claim 18 goes on to call for outputs of the power amplifiers to be combined and distributed among a plurality of channels. The outputs from the amplifiers **107** of Leussler are each applied to a pre-assigned one of the resonator elements and are not combined and distributed. Accordingly, it is submitted that **claim 18 and claim 19 dependent therefrom** are not anticipated by Leussler.

35 U.S.C. § 101

It is submitted that claim 18 does set forth a tangible result – specifically connecting RF signals from a plurality of RF channels to resonator elements. It is submitted that applying signals to resonator elements is a concrete result. Nonetheless, the applicants have amended claim 18 to specifically recite the result of applying such signals to resonator elements, specifically the excitation of resonance. Accordingly, it is submitted that claims 18 and 19 comply with the requirements of 35 U.S.C. § 101.

35 U.S.C. § 112, First Paragraph

In numerous places in the specification, the first and second distribution networks are described as adjusting the amplitude of RF signals. See, for example, page 4, lines 1-14, specifically lines 8-11, page 5, lines 13-16.

Accordingly, it is submitted that claims 11-18 comply with the requirements of 35 U.S.C. § 112.

Telephone Interview

The applicants would appreciate the opportunity to conduct a Telephone Interview with the Examiner to discuss the present claims, the references, and any amendments which might prove necessary to place the claims in condition for a prompt allowance. It is requested that the Examiner telephone Thomas Kocovsky at (216) 861-5582 to set up a mutually convenient time to discuss the application.

CONCLUSION

For the reasons set forth above, it is submitted that claims 1-19 (all claims) distinguish patentably and unobviously over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

Respectfully submitted,

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